Cervical cancer is the fourth cancer in terms of incidence and mortality in women worldwide. Relative to other cancers, there has been limited progress in the discovery of effective new therapies. Drug repurposing is an alternative development pathway that utilises the properties of drugs approved for other diseases and builds on available safety and pharmacological data to develop the drug as a potential cervical cancer drug.

We screened the literature to identify drug repurposing opportunities in cervical cancer to inform future research and trials.

**Methodology**

- A literature-based approach was undertaken to identify whether the drugs included in ReDO_DB or CDcervix_DB might be active in cervical cancer.
- ReDO_DB is a database of 317 non-cancer drugs on the market with at least one article reporting a possible effect on any cancer type (https://www.anticancerfund.org/en/redodb).
- CDcervix_DB, which is a subset of the CancerDrugs_DB (https://www.anticancerfund.org/en/cancerdrugs-db) contains 217 drugs approved for one or more malignancies by a regulatory agency, but excluding drugs currently used in cervical cancer.
- PubMed was queried for each drug and all abstracts were assessed for relevance and type of evidence (in vitro, in vivo, clinical trial, etc.). Subsequently, a clinical trial database (clinicaltrials.gov and WHO-ICTR) search was performed to generate a list of registered trials in cervical cancer with drugs from our databases.

**Results**

- We queried 534 drugs from our drug databases. Of these, 169 drugs had at least one relevant abstract or registered trial in cervical cancer. Ninety-three drugs had at least human data available with 52 drugs evaluated in registered trials. Forty-two drugs had at most in vitro data.
- All 169 drugs were assessed for scientific rationale, feasibility for integration in cervical cancer standard of care, evidence of radiosensitisation, availability of the drug for clinical trials and experience with the use of the compound. Out of these 169 drugs, 39 drugs have been selected as potential candidate for further investigation.
- Here, we present 5 examples (table), i.e. nelfinavir, hydralazine with valproate, sonidegib, plerixafor and cetuximab, out of the 39 potential candidates.

**Conclusion**

This study has identified potential candidates that are worth evaluating in cervical cancer. Although many drugs warrant additional preclinical and clinical investigation, we are exploring the possibility of conducting international collaborative exploratory multi-arm trials with one or several of these drugs.